5.8 FLOODPLAINS

Federal Executive Order 11988, *Floodplain Management,* directs Federal agencies to "take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains…." US Department of Transportation (USDOT) Order 5650.2, Floodplain Management and Protection, contains USDOT's policies and procedures for implementing the executive order. Similarly, the Federal Emergency Management Agency (FEMA) has relevant policies and procedures under 44 CFR Part 9. The policies generally direct agencies to avoid funding or approving projects in floodplains where practicable. Additionally, the policies direct that every effort be made to minimize the potential risks to human safety and property damage and the adverse impacts on natural and beneficial floodplain values.

USDOT Order 5650.2 requires that if the Proposed Action involves "significant encroachment" on the floodplain, which is "a considerable loss of human life, likely future damage associated with the encroachment that could be substantial in cost of extent, and a notable adverse impact on 'natural and beneficial floodplain values.'" The environmental document must identify why the Proposed Action is the only practicable alternative, and provide supporting documentation reflecting the consideration of alternatives to avoid or reduce adverse impacts on the floodplain. As discussed in Section 1.3, the purpose of the project is to replace the existing substandard subway station with a new terminal that addresses the functional and operational deficiencies of the existing station. Chapter 3: Alternatives Considered, discusses why the Proposed Action, located in the same area as the existing station, is the only alternative that meets the project's goal and objectives.

According to the Order, expansion of a facility already located within a floodplain usually would not be considered a significant encroachment. The existing South Ferry Subway Station and approach tracks are already located in both the 100-year and 500-year flood boundary. The proposed terminal and new approach tracks would also be located in both the 100-year and 500-year flood boundary, as indicated on the FEMA Flood Rate Insurance Map (FIRM) and illustrated in Figure 26. The portion of the project site located at the intersection of Battery Place and Greenwich Street is located outside of the 500-year flood boundary; however, north of Battery Place, Greenwich Street is located within the 500-year flood boundary. Additionally, the southern portion of the project site is located within the 100-year flood boundary. Because the new terminal and approach tracks would be located within the same floodplain areas as the existing station, its construction would not be considered a significant encroachment, and the construction and operation will conform to all applicable state and local floodplain protection standards.

The 100-year base flood elevation to which the proposed facilities will be designed is 108.347 feet above mean sea level. All surface openings leading to the subway terminal, including stairs, escalators, elevators, and vent gratings, will be set no lower than this

elevation. Where the ground surface is lower than the openings, the ground level will be sloped up to provide positive drainage. If a major flood event were to occur, the terminal and tunnels could experience standing water at track level and service would be shut down at the South Ferry Terminal. The local 1 train would likely be extended to Brooklyn, all 2 trains would operate local to Brooklyn with a reduced number of trains, and all 3 trains would terminate at 14th Street.

Pumping of water would occur in a flood condition and also on a continual basis from the terminal/tunnels into the City sewer system, as well as during construction activities (dewatering). The pumping of water into New York Harbor via the sewer system would have a negligible effect on water levels and/or water flow in the area because of the capacity of the harbor to accept these flows. The project is being designed with minimal surface penetrations (less than 5,000 square feet, including terminal entrances/exits and ventilation gratings/hatches) and restoration of the land after construction will be to the same topographic conditions, with no effect on the flood capacity.

Since the floodplains are already developed in the project corridor, and since there is no practicable alternative (due to the existing location of the South Ferry Station and 1 9 lines within the 100-year floodplain), the proposed project would comply with Executive Order 11988.